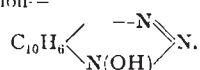


SOCIETIES AND ACADEMIES.

LONDON.

Chemical Society, December 13, 1900.—Prof. Thorpe, President, in the chair.—Prof. H. A. Miers delivered the Ramsberg Memorial Lecture.—December 20, 1900, Prof. Thorpe, President, in the chair.—On the union of hydrogen and chlorine, by J. W. Mellor. The mixture of hydrogen and chlorine obtained by the electrolysis of hydrochloric acid always contains measurable quantities of oxygen. A slight contraction occurs on mixing gaseous chlorine and hydrogen chloride.—The nitration of the three tolueneazophenols, by J. T. Hewitt and J. H. Lindfield. The three tolueneazophenols are nitrated by warm dilute nitric acid, and in each case the nitro-group enters the phenol ring in the ortho-position relatively to the hydroxyl group.—The bromination of the ortho-oxazo-compounds and its bearing on their constitution, by J. T. Hewitt and H. A. Phillips. Ortho-oxazo-compounds appear to react towards bromine as true oxazo-compounds, and not as orthoquinone-hydrazones.—On the use of pyridine for molecular weight determinations by the ebullioscopic method, by W. R. Innes. Molecular weight determinations show that pyridine does not favour the association of dissolved substances; its molecular rise in boiling point is 29.5.—The influence of the methyl group on ring formation, by A. W. Gilbody and C. H. G. Sprankling. The authors have determined the stability of phenylsuccinimide and its alkyl derivatives in alcoholic solution. It is found that the stability of the succinimide ring is decreased by introducing methyl groups into the fatty ring, whilst Miolati has found that the introduction of fatty groups into the aromatic ring increases the stability.—Experiments on the production of optically active compounds from inactive substances, by F. S. Kipping.—A lecture table experiment for the preparation of nitric oxide, by A. Senier.—The action of ethylene dibromide on xylidine and pseudocumidine, by A. Senier and W. Goodwin.—The action of phenylcarbimide on diphenyl-, diallyl- and dinaphthyl-diamines, by A. Senier and W. Goodwin.—Note on the action of nitrous acid on β -nitroso- α -naphthylamine, by A. Harden and J. Okell. On treating β -nitroso- α -naphthylamine in alcoholic solution with potassium nitrite and hydrochloric acid, a salt of the composition $C_{10}H_6O_2N_3K$ is obtained; this and the corresponding sodium salt, when treated with stannous chloride and acid, yield a substance which is probably an imidazole of the following constitution:—



—1:2:4-Metaxylidine-6-sulphonic acid, by H. E. Armstrong and L. P. Wilson. In accordance with the views previously published by Armstrong, it is found that although excess of fuming sulphuric acid converts 1:2:4-metaxylidine into the 5-sulphonic acid, the 6-sulphonic acid is readily obtainable by heating the sulphate of the base.—The preparation of acetyl-chloraminobenzene and related compounds, by F. D. Chattaway and K. J. P. Orton.

Geological Society, December 19, 1900.—J. J. H. Teall, F.R.S., President, in the chair.—On the igneous rocks associated with the Cambrian beds of the Malvern Hills, by Prof. T. T. Groom. The Cambrian beds of the Southern Malverns are associated with a series of igneous rocks which have commonly been regarded as volcanic, but are probably all intrusive. They consist of a series of bosses, dykes, sills and small laccolites intruded into the Upper Cambrian Shales and into the Hollybush Sandstone. The dykes appear to be confined to the sandstones, the sills and laccolites chiefly to the shales, while the bosses are found in both. All the rocks have a local stamp, but are probably most nearly related to the camptonitic rocks of the Central English Midlands. Intrusion took place at a period not earlier than the Tremadoc, and probably not later than that of the May Hill Sandstone.—On the Upper Greensand and Chloritic Marl of Mere and Maiden Bradley in Wiltshire, by A. J. Jukes-Browne and John Scanes. The district dealt with is on the borders of Wiltshire and Somerset. The general succession is as follows, the numbers being given in feet:—Lower Chalk, with Chloritic Marl at the base, 200; sands with calcareous concretions, 3 to 8; sands with siliceous concretions (cherts), 20 to 24; Coarse Greensand, 15; fine grey and buff sands, about 120; sandy marlstone, 15; grey marl and clay (Gault), 90.

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Royal Microscopical Society, December 19, 1900.—Mr. Wm. Carruthers, F.R.S., President, in the chair.—Mr. Barton exhibited some new forms of lanterns which could be used for ordinary projection purposes either with or without the microscope. The first was a lantern constructed so as to exclude all light from the room except what passed through the lenses; the manner of using this in connection with a microscope was shown. Another lantern exhibited was larger and more complete, and could be used for all purposes, including enlargements. The excellent definition of this lantern was demonstrated by the exhibition on the screen of photomicrographs of mounted preparations of insects, and of whole insects mounted in balsam. Mr. Barton also exhibited and described several new forms of microscope, with detachable circular stage, &c., and a new form of electric arc lamp for lantern use. A new form of lime-light was also exhibited of great brilliancy, steadiness and silence. Mr. Nelson said he was very much struck with the perfection to which the last-mentioned lamp had been brought, and inquired if the gases had been enriched in any way, and how the light was produced with such complete absence of noise. Mr. Barton said nothing was used but the two gases, and the effect was produced by causing them to impinge upon each other previous to their entrance to the mixing chamber, and by the construction of the chamber itself.

MANCHESTER.

Literary and Philosophical Society, January 8.—Prof. Horace Lamb, F.R.S., President, in the chair.—A discussion was introduced by Mr. W. H. Johnson upon the method of navigation employed by the Norsemen on their voyages between Northern Europe and Greenland and Iceland before the mariner's compass was known. Mr. W. E. Hoyle communicated a note on D'Orbigny's figure of *Onychoteuthis dussumieri*, in which he pointed out the resemblance which it bore to a species of Loligo in the Hamburg Museum. The skin of this specimen was partly covered by convex tubercles, giving it a shagreen-like appearance, which was due to its having undergone partial maceration in the stomach of some cetacean. It was further shown that this appearance might perhaps explain the true nature of a cephalopod described by Prof. Joubin, which he stated to be covered with scales resembling those of a ganoid fish. Dr. Lönnberg had found a similar appearance in a specimen of *Onychoteuthis* from Magellan's Straits, which on investigation proved not to be due to scales at all, but to a swelling of subcutaneous papillae in consequence of the maceration to which the animal had been subjected. It seemed, therefore, a reasonable hypothesis that all these scalelike appearances were due to a similar cause.

EDINBURGH.

Mathematical Society, January 11.—Mr. Geo. Duthie, Vice-President, in the chair.—Prof. Allardice read a paper on the nine-point conic, and notes were given by Prof. Steggall, Mr. D. B. Mair and Prof. Jack.

PARIS.

Academy of Sciences, January 7.—M. Fouqué in the chair.—M. Bouquet de la Grye was elected Vice-President for the year 1901.—M. Maurice Lévy, the retiring President, announced the changes in the members and correspondents for the past year.—The President announced the death of Dr. Potain, member in the section of Medicine and Surgery.—On the integrals of total differentials of the third species in the theory of algebraic functions of two variables, by M. Émile Picard.—Observations of the comet 1900c (Giacobini), made at the Observatory of Algiers, by MM. Rambaud and Sy. The observations, which were made with the 31.8 cm. equatorial on the nights of December 26 and 27, 1900, show that the comet is a nebulosity of 1' to 2' diameter with a feeble central nucleus comparable in intensity with a star of the 13th magnitude.—Observations of the comet 1900c (Giacobini) made with the equatorial of the Observatory of Besançon, by M. P. Chofardet. The observations were made on December 25, 1900, and show the comet as a rounded nebula without a tail, with a central stellar nucleus of about the 12th magnitude.—On convex closed surfaces, by M. H. Minkowski.—On the theorem of active forces, by M. H. Duport.—On linear equations with indeterminate points, by M. Ludwig Schlesinger.—On the theory of the equations of mathematical physics, by M. S. Zaremba.—On the absolute value of the magnetic elements on

January 1, by M. Th. Moureaux. The absolute values of the magnetic elements is given for four stations, Parc Saint-Maur, Nice, Perpignan and Val Joyeux. The removal of the magnetic instruments to this last station from Parc Saint-Maur was rendered necessary during the year by the increasing disturbances caused by the development of the electrical tramway system of Paris.—On a new phosphide of tungsten, by M. Ed. Defacqz. All attempts to prepare the tungsten phosphide, WP, at the temperature of the electric furnace were unsuccessful, owing to the fact that at the temperature of boiling copper phosphide the tungsten phosphide is dissociated. By working at the highest attainable temperature of a wind furnace, however, in presence of a large excess of copper phosphide, a well crystallised phosphide was obtained having the composition WP. This forms prismatic crystals of a grey metallic lustre, density 8.5, not attacked by air at the ordinary temperature, but converted into tungstic acid at a red heat.—On some properties of sodium peroxide, by M. George F. Jaubert. Sodium peroxide is commonly described as a white substance which deliquesces slowly when exposed to the air. The author now finds that the colour of this substance when prepared in a perfectly pure state is yellow, and further that it does not liquefy when exposed to the air.—Composition of the hydride and nitride of thorium, by MM. C. Matignon and M. Delépine. At a dull red heat metallic thorium burns in a current of hydrogen forming the hydride ThH. With nitrogen, if the metal be heated somewhat more strongly, the nitride Th₃N₄ is formed, which is rapidly decomposed by hot water with the formation of thoria and ammonia.—Some new reactions of the organo-metallic derivatives, by M. E. E. Blaise. A description of a new general method for the preparation of ketones and ketonic acids. The reagent used is the alkyl magnesium iodide obtained by the action of magnesium upon an alkyl iodide, and this is allowed to react with either a nitrile or an isocyanic ester. Thus in this way the author has obtained propionacetic ester from cyanacetic ester, diethyl ketone from cyanogen, and substituted anilides from phenyl isocyanate.—Action of methyl-acetylacetone and ethyl-acetylacetone on the diazo chlorides, by M. G. Favrel. The diazo-chlorides react with methyl- or ethyl-acetylacetone with the elimination of a molecule of acetic acid and formation of a hydrazone. This reaction resembles that of the cyanacetic esters containing substituted acid radicals, and also the reaction between the alkyl-acetylacetic esters and diazobenzene chloride.—On the embryology of *Taenia serrata*, by M. G. Saint-Remy. The author gives reasons for believing that the description given by van Beneden of the young egg, not segmented, is not quite exact, and that this description belongs in reality to a slightly more advanced stage.—On the discovery of an origin of the Swiss Pre-alps, by M. Maurice Lugeon.

DIARY OF SOCIETIES.

THURSDAY, JANUARY 17.

ROYAL SOCIETY, at 4.30.—Total Eclipse of the Sun, January 22, 1898. Observations at Vizardrug. Part IV. The Prismatic Cameras: Sir N. Lockyer, K.C.B., F.R.S.—Wave-length Determinations and General Results obtained from a Detailed Examination of Spectra photographed at the Solar Eclipse of January 22, 1898: J. Evershed.—The Thermo-Chemistry of the Alloys of Copper and Zinc: T. J. Baker.
ROYAL INSTITUTION, at 3.—The Origin of Vertebrate Animals: Dr. Arthur Willey.
SOCIETY OF ARTS (Indian Section), at 4.30.—Metalliferous Mining in India: Dr. John W. Evans.
LINNEAN SOCIETY, at 8.—On the Affinities of *Acleropus melanoleucus*, Prof. E. Ray Lankester, F.R.S., with a Description of the Skull and some of the Limb-bones: R. Lydekker, F.R.S.—On the Natural History and Artificial Cultivation of the Pearl Oyster: Dr. H. Lyster Jameson.
CHEMICAL SOCIETY, at 8.—The Preparation of Esters from other Esters of the same Acid: I. S. Patterson and Cyril Dickinson.—Teconin: a Colouring Matter derived from *Bignonia tocoma*: T. H. Lee.—A New Method for the Measurement of Ionic Velocities in Aqueous Solution: B. D. Sicele.—Metal-Ammonia Compounds in Aqueous Solution. II. The Absorptive Powers of Dilute Solutions of Salts of the Alkali Metals: H. M. Dawson and J. McCrae.

FRIDAY, JANUARY 18.

ROYAL INSTITUTION, at 9.—Gases at the Beginning and End of the Century: Prof. J. Dewar, F.R.S.
INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Annual General Meeting.—Possible discussion upon Mr. H. A. Humphrey's paper on Power Gas and Large Gas-Engines for Central Stations.

MONDAY, JANUARY 21.

VICTORIA INSTITUTE, at 4.30.—Evolution: Rev. G. F. Whidborne.

TUESDAY, JANUARY 22.

ROYAL INSTITUTION, at 3.—Practical Mechanics: Prof. J. A. Ewing, F.R.S.
ANTHROPOLOGICAL INSTITUTE, at 8.30.—On Malay Metal-working (illustrated by Lantern Slides and Experiments): W. Rosenhain.—Slides illustrative of the damage to Stonehenge will also be shown.
INSTITUTION OF CIVIL ENGINEERS, at 8.—The Present Condition and Prospects of the Panama Canal Works: J. T. Ford.
MINERALOGICAL SOCIETY, at 8.—Note on an Occurrence of Mirabilite: Dr. Trechmann.—On a Question relative to Extinction-Angles in Rock-Slices: Mr. Harker.—On the Arrangement of the Chemical Atoms in Calc Spar and in some other Crystals: Mr. Barlow.
ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Imitative *versus* Creative (a Comparison): W. Edwin Tindall.

WEDNESDAY, JANUARY 23.

GEOLOGICAL SOCIETY, at 8.—The Glacial Geology of Victoria, Australia: Prof. J. W. Gregory.—The Origin of the Dunmail Raise (Lake District): R. D. Oldham.

THURSDAY, JANUARY 24.

ROYAL SOCIETY, at 4.30.—Probable papers: The Boiling Point of Liquid Hydrogen, determined by Hydrogen and Helium Gas Thermometers: Prof. J. Dewar, F.R.S.—Investigations on the Abnormal Outgrowths or Intumescences on *Hibiscus vitifolius*, Linn.: a Study in Experimental Plant Pathology: Miss Elizabeth Dale.—On the Proteid Reaction of Adamkiewicz, with Contributions to the Chemistry of Glyoxylic Acid: F. Gowland Hopkins and S. W. Cole.
ROYAL INSTITUTION, at 3.—Origin of Vertebrate Animals: Dr. Arthur Willey.
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Adjourned Discussion: Capacity in Alternate Current Working: W. M. Mordey.

FRIDAY, JANUARY 25.

PHYSICAL SOCIETY, at 5.—The New Physical Laboratories of the Royal College of Science: Prof. A. W. Rüchker, Sec. R.S.—Note on an Absolute Method for determining the Hygrometric State of the Atmosphere: E. B. H. Wade.—Exhibition of an Experiment on the Migration of the Ions: S. W. J. Smith.
INSTITUTION OF CIVIL ENGINEERS, at 8.—Sewage Treatment: C. Johnston.

SATURDAY, JANUARY 26.

ROYAL INSTITUTION, at 3.—The Government and People of China: Prof. R. K. Douglas.

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